

IEC 950			
Clause	Requirement – Test	Result – Remark	Verdict

Used SPS: Delta, DPS-200PB-95BX



Electric strength test were performed after heating, humidity, ventilation blocked, fan locked and overloading test.

*) for alternate modem cards : T62M206, 1456VQH75Dc (INT)

5.4	TABLE: fault condition tests <i>For SPS tests were done with the approval of switching power supply, others see below.</i>						P
	ambient temperature (°C)		25°C				—
	model/type of power supply		See below.				—
	manufacturer of power supply		See below.				—
	rated markings of power supply		See appended table 1.5.1				—
No.	component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result
1	Openings	covered	254	11.5hrs	--	--	No affect to operation, no hazards. T0 max. temp. = 59°C. T3 max. temp. = 65°C. T4 max. temp. = 65°C. T5 max. temp. = 81°C.
2	SPS fan	locked	264	12hrs	--	--	No affect to operation, no hazards. T0 max. temp. = 60°C. T3 max. temp. = 91°C. T4 max. temp. = 77°C. T5 max. temp. = 115°C.
3	Output connectors	overl.	--	1h	--	--	No hazards.
4	D9	s-c	240V	1.5hrs	--	--	No affect to operation, no hazards. BT1 max. temp. = 28.5°C.

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5.4.10	TABLE: ball pressure test of thermoplastics <i>Done in the approval of switching power supply. No other test item necessary.</i>		N
	required impression diameter (mm):	≤ 2 mm	—
part		test temperature (°C)	impression diameter (mm)

National Deviation			
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APPENDIX	EN 60950:1992 + A1:1993: + A2:1993 + A3:1995 + A4:1997 + A11:1997 TEST REPORT (IEC Publication 60950 2nd edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996) CENELEC common modification, Special National condition, Nation deviation and other information according to CB Bulletin No. 99A, July 2001		P
EXPLANATION FOR ABBREVIATIONS C = CENELEC common modification, S = Special National condition, D = National deviation, F = Other information, AT = Austria, GB = Great Britain, CH = Switzerland, DE = Germany, DK = Denmark, FI = Finland, FR = France, NO = Norway, SE = Sweden. P = Pass, F = Fail, N = Not applicable. place in the column to the right.			
1.2.4.1 S	(DK). Certain types of Class I appliances (see sub-clause 3.2.1) may be provided with a plug not establishing earthing continuity when inserted into Danish socket-outlets.	Approved power cord set used.	P
1.5.1 D	(SE). Add the following: NOTE: Switches containing mercury such as thermostats, relay and level controllers are not allowed.	No such switch.	N
1.6.4 S	(NO). Note 2: In Norway, due to the IT power system used, capacitors are required to be rated for the applicable phase-to-phase voltage (230V)		P
1.7.2 S	(NO). Note 4: In Norway, if separation between the mains and a communication system/network, other than public telecommunication networks, relies upon connection to safety earth, the equipment shall have a marking stating that it must be connected to an earthed mains socket-outlet. NOTE: For requirements to be connected to a public telecommunication network, see 6.2.1.4.	Required text printed on label and affixed to unit	P
1.7.2 S	(SE). If the separation between the mains and a SELV terminal relies upon connection to the safety earth, the apparatus shall have a marking stating that it must be connected to an earthed mains socket-outlet when a SELV circuit is connected to network passing both unearthed and earthed electrical environment. The marking text shall be in Swedish and as follows: "Apparaten skall anslutas till jordat uttag när den ansluts till ett nätverk".	Required text printed on label and affixed to unit	P

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1.7.2 D	(DK). Supply cords of Class I appliances, which are delivered without a plug, must be provided with a visible tag with the following text: “Vigtigt. Lederen med grøn/gul isolation må Kun tilsluttes en klemme mærket  eller  ”. If essential for the safety of the appliance, the tag must in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text: “For tilslutning af de øvrige ledere, se medfølgende installationsvejledning”.	Must be evaluated with the national approval.	N
1.7.2 C	Delete note 4.	Deleted	N
1.7.5 S	(DK). Socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a when used on Class I equipment.	No socket outlet.	N
1.7.5 D	(DK). Class II appliances shall not be fitted with socket-outlets for providing power to other appliances.	Class I equipment.	N
1.7.14 D	(DE). Directions for use with rules to prevent certain hazards for (among others) maintenance of the technical labor equipment, also for imported technical labor equipment shall be written in German language. NOTE: Of this requirement, rules for use even only by service personnel are not exempted.	No technical labor equipment.	N
1.7.17 D	(CH). (Ordinance on environmentally hazardous substances SR 814.013) Annex 4.10 of SR 814.013 applies for batteries.	Must be evaluated in the national approval.	N
2.3.3 C	Delete Method 4 and the line in note 1 relating to this method	Replaced.	N
2.3.6 C	Delete the note.	Deleted.	N
2.3.5 S	(NO). In Norway, marking and insulation requirements according to subclause 1.7.2, Note 4, and 6.2.1.4, Note 2, apply.	Method 3 is not used.	P
2.3.6 S	(FR). Method 3 is not acceptable.	Deleted.	N
2.3.7 C	Replace the text of this sub-clause by: Void.	Replaced.	N
2.3.9 S	(NO). Marking and insulation requirements according to this annex, subclauses 1.7.02 and 6.2.01.4 b) apply.	Must be evaluated with the national approval.	N
2.5.2 S	(DK, NO) Add after the first paragraph: “The above exception is not acceptable in pluggable equipment type A “	Added.	N
2.5.2 C	Delete the note.	Deleted.	N

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2.7.1 C	<p>Replace the text of this sub-clause by: Basic requirements</p> <p>To protect against excess current, short-circuits and earth faults in primary circuits, protective devices shall be included either as integral parts of the equipment or as a part of the building installation, subject to all of the following a), b), c) and d):</p> <p>(a) Except as detailed in (b) and (c), protective devices necessary to comply with the requirements of Sub-clause 5.4 shall be included as integral parts of the equipment.</p> <p>(b) For components in series with the mains input to the equipment such as the supply cord, appliance coupler, RFI filter and switch, short circuit and earth fault protection may be provided with protective devices in the installation.</p> <p>(c) It is permitted for equipment with rated current exceeding 16A, which is pluggable equipment type B or permanently connected equipment, to rely on dedicated overcurrent and short circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breaker, is fully specified in the installation instruction</p> <p>(d) If reliance is placed on protection in the building installation, the installation instructions shall comply with Sub-clause 1.7.11 except that for pluggable equipment Type A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet and 1.7.11 does not apply.</p>	Replaced.	P
2.7.2 C	Replace the text of this sub-clause by: Void.	Replaced.	N
2.8.4 C	Delete the note.	Deleted.	N
2.9.1 S	(NO). Note 3: In Norway, due to the IT power systems used, the mains supply voltage is considered to be equal to the phase-to-phase voltage.	Mains voltage as reference voltage	P
2.9.4.2 C	<p>Amend the last line on page 117a as follows –</p> <p>Solvent-based enamel coating on winding wire is not considered to be insulation in thin sheet material.</p> <p>Add a new sentence below the text on page 117a as follows –</p> <p>Requirements for wound components are given in 2.9.4.4.</p>		N

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2.9.4.4 C	<p>Modify the title as follows –</p> <p>2.9.4.4 Wound components</p> <p>Replace the first paragraph and the two dashed paragraphs as follows –</p> <p>Unless one of the following situations applies, interleaved BASIC, SUPPLEMENTARY or REINFORCED INSULATION complying with 2.9.4.1 or 2.9.4.2 shall be provided between the windings.</p> <ul style="list-style-type: none"> - the insulation on the winding wire complies with 2.9.4.1; or - the winding wire complies with annex U; or - the insulation between the windings is provided for separation between ZNV circuits and other parts in compliance with 6.4.1. <p>Note – Examples of insulation of winding wire complying with annex U are polyamide and FEP.</p>		N
2.11 C	Delete notes 1, 2 and 3.	deleted	N
3.2.1 S	<p>(DK). Supply cords of single phase appliances having a rated current not exceeding 10A shall be provided with a plug according to the Heavy Current Regulations Section 107-2-D1.</p> <p>Class I equipment provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If poly-phase equipment and single-phase equipment having a rated current exceeding 10A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations Section 107-1-D1 or EN 60309-2.</p>	Approved power cord set used.	P
3.2.1 S	<p>(CH). Supply cords of equipment having a rated current not exceeding 10A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets</p> <p>SEV 6532-2,1991 Plug type 15 3P+N+PE 250/400V, 10A</p> <p>SEV 6533-2,1991 Plug type 11 L+N 250V, 10A</p> <p>SEV 6534-2,1991 Plug type 12 L+N+PE 250V, 10A</p> <p>EN 60 309 applies for plugs for currents exceeding 10A</p>	To be evaluated when national approval is done	N

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3.2.1 S	(GB). Apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS1363 by means of that flexible cable or cord and plug, shall be fitted with a "standard plug" in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. Note: "standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.	To be evaluated when national approval is done	N
3.2.2 C	Delete the note and in table 10, delete the values in parentheses.	Deleted.	N
3.2.4 S	(GB). A power supply cord with conductor of 1.25mm ² is allowed for equipment with rated current over 10A and up to and including 13A.	Rated current below 10A.	N
3.2.4 C	Replace "60245 IEC 53" by "H05 RR-F", "60227 IEC 52" by "H03 VV-F or H03 VVH2-F" and "60227 IEC 53" by "H05 VV-F or H05 VVH2-F". In table 11, replace the first four lines by the following: <div style="margin-left: 40px;"> Up to and including 6 0.75 ¹⁾ Over 6 up to and including 10 1.0 (0.75)²⁾ Over 10 up to and including 16 1.5 (1.0)³⁾ </div> In the conditions applicable to table 11, delete the words "in some countries" in condition 1). In the Note delete the second sentence.	Replaced.	P
3.3.5 C	In table 13, replace the fourth and the fifth lines by: Over 10 up to and including 16 1.5 to 2.5 1.5 to by 4	To be evaluated when national approval is done	N
3.3.5 S	(GB). The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current of over 10A and up to and including 13A is: 1.25mm ² to 1.5mm ² nominal cross-sectional area.	Replaced.	N

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4.3.12 C	Amend the third compliance paragraph as follows: For equipment using LEDs or lasers, compliance is checked according to EN 60825-1. Add a note: NOTE: If equipment falling within the scope of EN 60950 is inherently a class 1 laser product i.e. it contains no embedded laser or LED of a higher class number, then a laser warning label or other laser warning statement is not required (see 1.1 of EN 60825-1)	See report IEC 60950.	P
4.3.18 S	(GB). This test should be performed using an appropriate socket-outlet with an earthing contact.	No direct plug-in equipment.	N
4.4.4 C	Delete note 2.	Deleted.	N
5.4.9 S	(NO). Note: In Norway, the electric strength test includes testing of basic insulation in Class I pluggable equipment type B and permanently connected equipment.		P
6.1 S	(CH).Protective means in the equipment shall not prevent transient surge protection in the telecommunication network from operating properly (d.c. spark-over voltage of the surge suppressor installed in the telecommunication network: approx. 245V).	Approved modem card used	N
6.2.1.2 C 6.2.1.3 C	Add at the end of the sub-clause: This sub-clause only applies to TNV circuits normally operating in excess of the limits of SELV circuits.	Added	P
6.2.1.2 S	(SE). Supplementary insulation for a primary circuit is required between any TNV circuit and any circuit that has a connection to a protective earthing terminal. In Sweden, this requirement does not apply to permanently connected equipment or pluggable equipment Type B.	applied	P
6.2.1.2 S	(NO). In Norway, supplementary insulation for a primary circuits is required between any TNV circuit and any circuit that has a connection to a protective earthing terminal. This requirement does not apply to permanently connected equipment or to pluggable equipment type B, installed in areas where equipotential bonding has been applied, e.g. a telecommunication Central Office.	applied	P
6.2.1.4 C	Delete the notes.	deleted	N

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6.2.1.4 S	(NO). Note 2: In Norway, method b) is not permitted. Insulation between parts conductively connected to the supply mains and parts connected to a public telecommunication network shall comply with the requirements for double or reinforced insulation.	Complied	P
6.2.1.4b) S	(FI). Method b) is permitted only for permanently connected equipment or for pluggable equipment Type B.	Pluggable type A	N
6.2.1.5 S	(NO). Note 2: In Norway, requirements according to 6.2.1.4, Note 2, apply	Applied	P
6.3.3. S	(NO). In Norway, 6.3.3 is applicable for pluggable equipment type A and B and for permanently connected equipment.	Applied	P
6.3.3.1 S	(SE). In Sweden, requirements according to this annex ZB, subclause 6.2.1.2 apply.		
6.3.3.1 S	(NO). In Norway, requirements according to subclause 6.2.1.2, national difference, 6.2.1.4, Note 2, and 6.3.3.2, Note 1, applied.	Applied	P
6.3.3.2 S	(NO). Note 1: In Norway, exclusions are applicable for permanently connected equipment and pluggable equipment Type B only.	Applied	P
6.4.1 C	Delete note 2.	Deleted	P
6.4.2.1 C	Delete note 2.	Deleted	P
6.4.2.1 D	(AT). Equipment shall comply with $U_c = 2.0\text{kV}$ in cases b) and c).	6.4.2.2 applied	N
Annex H. D	(DE) a) A license is required by those who operate an X-ray emission source. b) A license in accordance with clause 1 is not required by those who operate an X-ray emission source on which the electron acceleration voltage does not exceed 20 kV, if 1) the local dose rate at a distance of 0.1m from the surface does not exceed $1\mu\text{Sv/h}$ and 2) it is adequately indicated on the X-ray emission source that i) X-rays are generated and ii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer.	No CRT.	N

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	<p>c) A license in accordance with clause 1 is also not required by persons who operate an X-ray emission source on which the electron acceleration voltage exceeds 20 kV, if</p> <p>1) the X-ray emission source has been granted a type approval and</p> <p>2) it is adequately indicated on the X-ray emission source that</p> <p>i) X-ray are generated,</p> <p>ii) the device stipulated by the manufacturer or importer guarantees that the maximum permissible local dose rate in accordance with the type approval is not exceeded and</p> <p>iii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer.</p> <p>d) Furthermore, a license in accordance with clause 1 is also not required by persons who operate X-ray emission sources on which the electron acceleration voltage does not exceed 30 kV, if</p> <p>1) the X-rays are generated only by intrinsically safety CRTs complying with Enclosure III, No.6,</p> <p>2) the values stipulated in accordance with Enclosure III, bi, 6.2 are limited by technical measures and specified in the device and</p> <p>3) it is adequately indicated on the X-ray emission source that the X-rays generated are adequately screened by the intrinsically safe CRT.</p>		
Annex P C	<p>Replace the text of this annex by:</p> <p>See annex ZA.</p>	Replaced.	N
Annex Q C	<p>Add for IEC 60529:</p> <p>Note: Endorsed by EN 60529:1991 (not modified)</p> <p>Add for IEC 60707</p> <p>Note: Endorsed by HD441:1983 (not modified)</p> <p>Add for IEC 61058-1:</p> <p>Note: Endorsed by EN 61058:1992 (not modified).</p>	Added.	N

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APPENDIX	<p>EMKO-TSE(74-SEC)207/94 TO</p> <p>EN 60950:1992 + A1:1993 + A2:1993 + A3:1995 + A4:1997 + A11:1997</p> <p>TEST REPORT</p> <p>(IEC Publication 60950 2nd edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)</p> <p>Nordic Explanations, and other information not covered by Appendix EN 60950:1992, + A1:1993 + A2:1993 + A3:1995 + A4:1997 + A11:1997.</p>		P
<p>EXPLANATION FOR ABBREVIATIONS</p> <p>NF = Nordic Explanations and other information. DK = Denmark, FI = Finland, NO = Norway, SE = Sweden.</p> <p>P = Pass, F = Fail, N = Not applicable. Placed in the column to the right.</p>			
1.2.02.01 NF	(DK,FI,NO,SE). The heating test of separate power supplies of personal computers is carried out according to their rated output values marked on the power supplies.	No separate power supply.	N
1.5.01 NF	<p>(DK,FI,NO,SE). The following capacitors are accepted across the mains:</p> <p>1) X1 capacitor which complies with Publication IEC 60 384-14.</p> <p>2) X2 capacitor which complies with Publication IEC 60 384-14 and which has been subjected to a pulse test according to § 12.11.2, except the value of the voltage is reduced to 2.5 kV.</p> <p>3) X2 capacitor which complies with Publication IEC 60 384-14 in case the endurance test of § 12.11.2 has been modified so that the resistor of 220Ω through which the voltage of 1000 V rms is applied to the capacitor under test, is short circuited.</p> <p>4) Capacitor which complies with Publication HD 195 S6, § 14.2.</p>	X2 capacitor comply with this clause (see report IEC 60950 report).	P
1.5.02 NF	(DK,FI,NO,SE). Transient protection components shall be installed in such a way that insulation for protection against electric shock will not be bridge. This means that transient protection components must not be connected to safety earthed parts in pluggable equipment or to other accessible parts.	No transient protection components connected to safety earthed parts.	P
	-3.2.3 (DK,FI,NO,SE). Interconnection couplers in accordance with EN 60 320-2-2 are accepted. Outlets of non-standard types are not accepted.	No outlet.	N
1.7.01 NF	-1st dash (DK). When supplied in Denmark the appliances shall be set to 230 V .	Included in the voltage range.	P

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	-5th dash (DK). The equipment may instead be provided with a marking indicating name, trade-mark or identify of the responsible vendor.	Refer to CB report page 3.	P
2.1.04 NF	(DK,FI,NO,SE). For monitors, warning label is not required for repairing area, neither the partial shielding against contact although the voltage is > 42.4 V peak or > 60 V d.c.	Unit is PC.	N
2.5.11 NF	(DK,FI,NO,SE). Due to installation fuses of 16A, the earth resistance shall always be controlled at 25 A.	Earthing test conducted at 25A, see IEC 60950 report.	P
2.6.06 NF	(DK,FI,NO,SE). The plug is regarded to be a disconnect device and therefore a single pole mains switch is acceptable (TC 74-WG 8's recommendation).	Appliance inlet considered as disconnect device.	N
2.6.11 NF	(DK,FI,NO). The warning label on an appliance with two or several supply connections shall be in the official language of the country in question.	Only one supply from the mains.	N
	(DK,FI,NO). UPS-appliances can be fitted with a signal lamp instead of a warning label, under the condition that the function and location of the signal lamp is correct. Audible signal is not acceptable as warning.	Equipment is not a UPS.	N
2.7.03 NF	(DK,FI,NO,SE). A single-pole protective device is acceptable.	Only one fuse on live phase.	P
2.9.01 NF	(DK,FI,NO,SE). Pollution Degree 3 is considered applicable for the following equipment which is within the scope of this standard: Document Shredder Machines.	Equipment is not a shredding machine	N
4.2.07 NF	(DK,FI,NO,SE). If there are visible cracks on the apparatus after the mechanical strength test, the apparatus is not rejected, if it still complies with the other requirements of subclause 4.2.7.	Metal enclosure.	N
4.4.04 NF	(DK,FI). Fire enclosure is required if the available power exceeds the values of a limited power source. The limited power source shall incorporate an isolating transformer and shall comply with the following: * The open-circuit voltage shall not exceed 42.4 V peak or d.c. and shall not generate voltages above the value and * The current which may be drawn for more than two minutes at any load, including short-circuit, shall not exceed 0.2 A.	Supplied from the mains.	N

National Deviation			
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	(NO). A fire enclosure is not required in spots of the equipment where the available power does not exceeded 50 VA and the available voltage 42.4 V (peak) or 60 V d.c.	Supplied from the mains.	N
5.4.06 NF	(DK,FI,NO,SE). Faults need not to be carried out in circuits which are supplied by an isolating transformer and which comply with the following: * The open-circuit voltage shall not exceed 42.4 V peak or d.c. and shall not generate voltages above the value and * The current which may be drawn for more than two minutes at any load, including short-circuit, shall not exceed 0.2 A.	Supplied from the mains.	N

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National Deviation			
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APPENDIX	China National Differences according to CB Bulletin, No. 99A, July 2001 REPORT (IEC Publication 60950 2nd edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)		P
EXPLANATION FOR ABBREVIATIONS P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.			
1.4.5, 1.6.5	The minimum supply tolerance is –10%, +6%; GB4943 sub-clause 1.4.5 and 1.6.5: The minimum supply tolerance is –10%, +10% according to Chinese situation.	Considered, see IEC 60950 report	P
	IEC standard for plug is IEC 60083. The Chinese National standard for Plugs is GB1002-1996, which is not equivalent with IEC60083.	Shall be evaluated during national approval.	N

National Deviation			
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APPENDIX	Japanese National Differences according to CB Bulletin No. 99A, July 2001 REPORT (IEC Publication 60950 : 1991 + A1 + A2 + A3 + A4)		P
EXPLANATION FOR ABBREVIATIONS			
P = Pass, F = Fail, N = Not applicable. Placed in the column to the right.			
2.9.2.1	Delete entire column headed by [Nominal mains supply voltage $\leq 150V$ (Transient rating 1500V)] in Table 3. Delete $> 150V$ from column headed by "Nominal mains supply voltage $> 150V$, $\leq 300V$ (Transient rating 2500V)" in Table 3.	deleted	N
2.9.2.2	Delete entire column headed by "Nominal mains supply voltage $\leq 150V$ (Maximum transient in secondary circuit 800V see condition 6)" in Table 5	deleted	N
2.9.4.4	Replacement: The following shall replace the entire existing paragraphs: Title: Wounded components BASIC, SUPPLEMENTARY, DOUBLE or REINFORCED INSULATION is permitted in a wounded component using one of the following a), b), or c) constructions or the wounded component must use interleaved insulation which complies with 2.9.4.1 or 2.9.4.2: a) the winding wire is insulated with insulation complying with 2.9.4.1 other than solution based type enamel coatings. b) the winding wire is insulated with extruded multi-layers or wrapped layers of tape (each layer can be tested for electric strength) which complies with 2.9.4.1 and complies with annex U. c) the winding wire is insulated with extruded multi-layers or wrapped layers of tape (test can be only performed on finished winding wire) and complies with annex U.	replaced	N

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	<p>Note 1 – see also 6.4.1.</p> <p>As to c), the number of constructional layers applied to the conductor to determine the grade of insulation of the winding wire shall not be less than as follows:</p> <ul style="list-style-type: none"> - if BASIC INSULATION is required, a minimum of two layers or one extruded layer - if SUPPLEMENTARY INSULATION is required, a minimum of two layers or two extruded layers - if REINFORCED INSULATION is required, a minimum of three layers or three extruded layers <p>As to b) and c), in case the CREEPAGE DISTANCES between wrapped layers of tape are less than Table 6 under Pollution degree 1, the distance between layers must be reliably cement together with insulation compound complying with 2.9.7 and with the test voltage in annex U.2 (Type tests) increased to 1.6 times.</p> <p>Note 2 – In case one layer of material is wrapped 50% or more, it is considered as two layers</p> <p>Where two insulated wires or one bare wire and one insulated wire are contacted inside the component and cross each other at an angle between 45° and 90°, physical separation shall be provided, for example in the form of insulating sleeving or sheet material, or by applying two times of the specified insulating layer(s), to relieve mechanical stress at the crossover point.</p> <p>The finished component shall pass ROUTINE TESTING for electric strength using the value of test voltage in 5.3.</p> <p>Compliance is checked by visual inspection and measurement, and as specified in annex U. However, the tests are not repeated if the material data sheets confirm compliance with annex U.</p>		
5.1	<p>Addition:</p> <p>Add the following to 5) as specified in "Conditions applicable to table 16, parts 1 and 2"</p> <p>With regards to 1), insulating materials complying with Japanese requirement (Refer to Japanese difference for current IEC 60335-1 (3rd Edition) in CB Bulletin 94B), can be taken of data for that material to determine the appropriate maximum temperature rise.</p>	For other than those complied with IEC standards, refer to added condition 8) below	P

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Clause	Requirement – Test	Result – Remark	Verdict
Annex U	<p>Replacement:</p> <p>ANNEX U (normative)</p> <p>Insulated winding wires for use without interleaved insulation (see 2.9.4.4)</p> <p>This annex specifies winding wire whose insulation may be used to provide BASIC, SUPPLEMENTARY or REINFORCED INSULATION in wound components without interleaved insulation.</p> <p>This annex applies to round winding wire whose diameter is between 0.2mm and 1.00mm. With regard to other size, refer to IEC 60851.</p>	replaced	N
	<p>U.1 Wire construction</p> <p>If the wire is insulated with two or more spirally wrapped layers of tape, the overlap of layers shall be adequate to ensure continued overlap during manufacture of the wound component. In order to maintain the overlap of layers, wire insulation layer of wrapped layers of tape must be adequately secured.</p>		N
	<p>U.2 Type tests</p> <p>Unless it specifies, the wire shall pass the following six TYPE TESTS U.2.1 to U.2.4, carried out at a temperature between 15°C and 35°C and a relative humidity between 45% and 75%. Refer to the IEC 60851 first edition.</p>		N
	<p>U.2.1 Electric strength</p> <p>Test 13 of IEC 60851-5 (1988), 4.3.1 (test for twisted wire pairs), with a test voltage 2 times of appropriate voltage in Table 18 of this standard or 6kVr.m.s. whichever is the greater.</p>		N

National Deviation																					
Clause	Requirement – Test	Result – Remark	Verdict																		
	<p>U.2.2 Adherence and flexibility</p> <p>Test 8 of IEC 60851-3, with a test voltage not less than the appropriate voltage in Table 18 of this standard or 3kVr.m.s. whichever is the greater.</p> <p>Table U.2.2.2 – Mandrel</p> <table><tr><td>Nominal diameter of conductor (mm)</td><td>Mandrel diameter (mm±0.2mm)</td></tr><tr><td>0.20 – 0.34</td><td>4.0</td></tr><tr><td>0.35 – 0.49</td><td>6.0</td></tr><tr><td>0.50 – 0.74</td><td>8.0</td></tr><tr><td>0.75 – 1.00</td><td>10.0</td></tr></table> <p>The tension of winding wire while wire is wrapped around the mandrel, should be calculated so that it is equivalent to 118MPa±10% (118N/mm²±10%) from winding wire radial.</p>	Nominal diameter of conductor (mm)	Mandrel diameter (mm±0.2mm)	0.20 – 0.34	4.0	0.35 – 0.49	6.0	0.50 – 0.74	8.0	0.75 – 1.00	10.0		N								
Nominal diameter of conductor (mm)	Mandrel diameter (mm±0.2mm)																				
0.20 – 0.34	4.0																				
0.35 – 0.49	6.0																				
0.50 – 0.74	8.0																				
0.75 – 1.00	10.0																				
	<p>U.2.3 Heat shock</p> <p>Test 9 of IEC 60851-6, 3.1 and IEC 60851-3, 5.1.1.1, with a test voltage not less than the appropriate voltage in Table 18 of this standard or 3kVr.m.s. whichever is the greater.</p> <p>The temperature of oven is specified in the following Table U.2.3.</p> <p>Table U.2.2 shows and explains required mandrel diameter and tension.</p> <p>Test must be performed at room ambient after taking out from oven.</p> <p>Table U.2.3 – Oven Temperature</p> <table><tr><td>Class</td><td>A</td><td>E</td><td>B</td><td>F</td><td>H</td></tr><tr><td></td><td>(105)</td><td>(120)</td><td>(130)</td><td>(155)</td><td>(180)</td></tr><tr><td>Oven Temp.</td><td>200</td><td>215</td><td>225</td><td>240</td><td>260</td></tr></table> <p>(°C±2°C)</p>	Class	A	E	B	F	H		(105)	(120)	(130)	(155)	(180)	Oven Temp.	200	215	225	240	260		N
Class	A	E	B	F	H																
	(105)	(120)	(130)	(155)	(180)																
Oven Temp.	200	215	225	240	260																
	<p>U.2.4 Retention of electric strength after bending</p> <p>Test 13 of IEC 60851-5 (1988), 4.6.1 c, with a test voltage not less than the appropriate voltage in Table 18 of this standard or 3kVr.m.s. whichever is the greater.</p> <p>Table U.2.2 shows and explains required mandrel diameter and tension.</p>		N																		
	<p>U.3 Routine test</p> <p>Winding wire is subjected to electric strength test during the production in accordance with U.3.1 and U.3.2 by wire manufacturer.</p>		N																		

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
	<p>U.3.1 Full-length test</p> <p>Winding wire is subjected to electric strength test during the production for full wire length, with a test voltage not less than the appropriate voltage in Table 18 of this standard or 3kVr.m.s. or 4.2kV peak minimum.</p>		N
	<p>U.3.2 Audit test</p> <p>Test must be carried out according to IEC 60851-5 (1988) for twisted wire pairs. Electric strength test, with a test voltage 2 times of appropriate voltage in Table 18 of this standard or 6kVr.m.s. or 8.4kV peak minimum.</p>		N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	Korean National Differences according to CB Bulletin, No. 99A, July 2001 REPORT (IEC Publication 60950 2nd edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)		P
EXPLANATION FOR ABBREVIATIONS P = Pass, F = Fail, N = Not applicable. Placed in the column to the right.			
General	LIMITATIONS - Voltage ratings As national supply voltage is subject to be increased to 220V, an appliance rated 220V is to be allowed to obtain type approval in Korea. Either an appliance rated 110V or 220/110V is not allowed. When an appliance is supplied in Korea, it shall be set to and marked with 220V. But free voltage appliance by SMPS (Switching Mode Power Supply) is allowed and it shall be marked with “100-220V”.	Rated 100-127/200-240V or 220-240V	P
General	LIMITATIONS – Frequency Only appliances having supply frequency of 60Hz or a frequency range including 60Hz are accepted. When an appliance is supplied in Korea, it shall be set to and marked with 60Hz.	Certified in the 50/60Hz frequency range.	P
General	LIMITATIONS - Instruction Instruction manuals and appliance markings related to safety, including nameplate shall be in Korean or graphical symbols in IEC Publication 60417.	Instruction manual will be in Korean.	N
1.5.101	Addition: Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirements (KSC 8305).	No power plug provided.	N
7	Addition: Radio frequency interference The apparatus shall comply with the relevant CISPR requirements.	The CISPR requirements have to be considered when national approval is done	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	Singapore National Differences according to CB Bulletin, No. 99A, July 2001 REPORT (IEC Publication 60950 2nd edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)		P
EXPLANATION FOR ABBREVIATIONS			
P = Pass, F = Fail, N = Not applicable. Placed in the column to the right.			
General	IT Power Systems are not allowed in the Republic of Singapore and all clauses related to IT Power Systems are not applicable.	The unit is not applied for IT Power System.	P
2.2.3	(a) After the first paragraph, insert the following: Conditions described in IEC Publication 60068-2-3: Test Ca: Damp Heat, Steady State (temperature: 40 ± 2°C, relative humidity: 90% to 95%) shall apply to insulation to be used under tropical conditions. The duration of the humidity conditioning is 5 days (120h) under tropical conditions. (b) At the end of the last paragraph, insert the following note: NOTE: The additional requirement on humidity conditioning is drawn from Clause 10.2 of IEC 60065:1985.	To be evaluated in national approval.	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	Israel National Differences according to CB Bulletin, No. 99A, July 2001 REPORT (IEC Publication 60950 2nd edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)		P
EXPLANATION FOR ABBREVIATIONS P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.			
1.2.12.1	TN Power Distribution: The mains system in Israel is TN-S or TN-C or TN-C-S.		N
1.7	Marking and Instructions: The package of the equipment shall be marked in Hebrew, and shall include: (a) The name of the manufacturer (b) The country of production (c) The year of production (d) The name and the address of the importer (e) The marking shall be on a rectangular label (of at least 50mm X 24mm) (f) The letters height should be at least 2mm (g) The color of the label shall be in contrast to the color of the package.	Instructions and markings will be in Hebrew	P
1.7.14	Language: All instructions and warnings concerning safety should be in the Hebrew language	Instructions and markings will be in Hebrew	P
2.101	EMC: The equipment shall comply with SI 961 part 6 (CISPR 22 + 24)	Shall be evaluated during national approval	N
3.2.2	Permanently connected equipment: Additional note below table 10: In Israel the diameter of the conduit shall comply with the Electricity Law.	Shall be evaluated during national approval	N

National Deviation																					
Clause	Requirement – Test	Result – Remark	Verdict																		
APPENDIX	Australian National Differences according to CB Bulletin No. 99A, July 2001 (AS/NZS 3260-1993) REPORT (IEC Publication 60950 2 nd edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)		P																		
EXPLANATION FOR ABBREVIATIONS																					
P= Pass, F= Fail, N= Not applicable. Placed in the column to the right.																					
1.2.12.2	Add: "TT power systems are not permitted in Australia or New Zealand."	Added.	N																		
1.2.12.3	Add: "IT power systems are not permitted in Australia or New Zealand." Note: Australia and New Zealand principally use multiple-earthed neutral (MEN) systems but allow TN-C for installations using metal-sheathed cables.	Added.	N																		
1.5.1	Add to paragraph 1: "or the other relevant Australian or New Zealand Standard."	Added.	P																		
1.5.2	Add to the first and third dashed items after the words "IEC component standard": "or the other relevant Australian or New Zealand Standard."	Added.	P																		
1.6.4	Add: "IT power systems are not permitted in Australia or New Zealand."	Added.	N																		
1.7.14	Add to paragraph 1: "In Australia and New Zealand all safety instructions shall be in English."	User manual is in English.	P																		
2	Add after clause 2: "For the limit of direct current from a.c. appliances, refer to AS/NZS Appendix 3."	See Appendix 3.	N																		
3.2.2	Substitute for table 10: "For sizes of cables and conduits in Australia, refer to AS 3000."	No power cord provided.	N																		
3.2.4	Substitute for table 11: "For sizes of conductors in power supply cords use following Table 11: Table 11 Sizes of conductors in power supply cords <table><tr><th>Rated current (A)</th><th>Cross-section area (mm²)</th></tr><tr><td>> 0.2 ≤ 3</td><td>0.5 *</td></tr><tr><td>> 3 ≤ 7.5</td><td>0.75</td></tr><tr><td>> 7.5 ≤ 10</td><td>1</td></tr><tr><td>> 10 ≤ 16</td><td>1.5</td></tr><tr><td>> 16 ≤ 25</td><td>2.5</td></tr><tr><td>> 25 ≤ 32</td><td>4</td></tr><tr><td>> 32 ≤ 40</td><td>6</td></tr><tr><td>> 40 ≤ 63</td><td>10</td></tr></table> * This nominal cross-section area is only allowed for class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug, does not exceed 2m (0.5mm ² three-core supply flexible cords are not permitted; see Note 2 to table 2.17 of AS/NZS 3191).	Rated current (A)	Cross-section area (mm ²)	> 0.2 ≤ 3	0.5 *	> 3 ≤ 7.5	0.75	> 7.5 ≤ 10	1	> 10 ≤ 16	1.5	> 16 ≤ 25	2.5	> 25 ≤ 32	4	> 32 ≤ 40	6	> 40 ≤ 63	10	No power cord provided.	N
Rated current (A)	Cross-section area (mm ²)																				
> 0.2 ≤ 3	0.5 *																				
> 3 ≤ 7.5	0.75																				
> 7.5 ≤ 10	1																				
> 10 ≤ 16	1.5																				
> 16 ≤ 25	2.5																				
> 25 ≤ 32	4																				
> 32 ≤ 40	6																				
> 40 ≤ 63	10																				

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
4.3.18	<p>Replace Clause 4.3.18 by: "Direct plug-in equipment shall not impose undue strain on the socket outlet and shall comply with the relevant Clauses 2.8.1 and 2.14.6 of AS/NZS 3112.</p> <p>Compliance is checked by inspection, measurement and the appropriate tests as detailed in Clauses 2.8.4 and 2.14.6 of AS/NZS 3112 using the 10 amp gauge of Appendix A of AS/NZS 3112 and by inserting the pins of the appliance, as in normal use, into a socket outlet capable of accepting a 10 amp plug complying with Figure 2.1(A) of AS/NZS 3112. The socket outlet has a horizontal pivot at a distance of 8mm behind the engagement face of the socket outlet and in the plane of the lower intersection of the centre-lines of the contact apertures.</p> <p>The additional torque which has to be applied to the socket outlet to maintain the engagement face in the vertical plane shall not exceed 0.25N.m."</p>	Appliance inlet used.	N
4.4.1	Add after Clause 4.4.1: "For the Australian and New Zealand alternative resistance to fire test, refer to AS/NZS Appendix 2."	Not applied for Appendix 2.	N
6.3.3.2	Add to the second dash point the following note: "NOTE: To satisfy the requirements of Clause 1.7.2 for equipment intended to be installed by service personnel, the equipment documentation or equipment warning label if equipment documentation is not supplied should contain the following or similar text: WARNING: THIS EQUIPMENT MUST ONLY BE INSTALLED AND MAINTAINED BY SERVICE PERSONNEL"	No TNV.	N
6.4.2	<p>Replace the first paragraph by: "In Australia (this variation to IEC 60950 does not apply in New Zealand), compliance with 6.4.1 is checked by both the test of 6.4.2.1 and 6.4.2.2".</p> <p>Delete the fourth paragraph 'The choice of tests.....manufacturer'.</p>	No TNV	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
6.4.2.1	<p>Replace Clause 6.4.2.1 by:</p> <p><i>Impulse test</i> The electrical separation is subjected to ten impulses of alternating polarity, using the impulse test generator of Annex N. The interval between successive impulses is 60s and the initial voltage U_0 is:</p> <ul style="list-style-type: none"> - in case (a) of 6.4.1, 7kV for hand-held telephones and for handsets; and 2.5kV for other equipment; and - in case (b) and (c) 1.5kV. <p>Notes:</p> <p>1 The seven kV impulse is to simulate measured lighting surges in typical Australian rural and semi rural network lines.</p> <p>2 The value of 2.5kV has been chosen primarily to ensure adequacy of the insulation concerned, but not necessarily to simulate likely overvoltages.</p>	No TNV	N
6.4.2.2	<p>Replace Clause 6.4.2.2 by:</p> <p><i>Electric strength test</i> The electrical separation is subjected for 60s to a substantially sinusoidal voltage having a frequency of 50Hz or 60Hz, or to a d.c. voltage equal to the peak value of the prescribed a.c. voltage.</p> <p>The a.c. test voltage is:</p> <ul style="list-style-type: none"> - in case (a) of 6.4.1 3kV - in case (b) and (c) 1.5kV. <p>The voltage is gradually raised from zero to the prescribed voltage and then held at that value for 60s.</p> <p>NOTE:</p> <p>1. Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used.</p> <p>2. The 3 kV and 1.5kV values have been determined considering the low frequency induced voltages from the power supply distribution system.</p>	No TNV	N
Annex A	<p>Add. after Annex title:</p> <p>Alternative resistance to fire test-determination if ignitability and combustion propagation</p>	Not applied for this Appendix	N
Appendix 2	<p>Add. Appendix</p> <p>ALTERNATE RESISTANCE TO FIRE TEST DETERMINATION OF IGNITABILITY AND COMBUSTION PROPAGATION</p>	Not applied for this Appendix	N
X2.0	<p>GENERAL</p> <p>This test is an alternative to the testes in Annex A to allow approval of equipment which has inadequate documentation to verify having been tested to Annex A.</p>		N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
X2.1	SOLID INSULATION MATERIALS AND NON-METALLIC ENCLOSURES		N
X2.1.1	GENERAL REQUIREMENTS Parts of non metallic material shall be subjected to the glow wire test specified in X2.1.2, X2.1.3 and X2.1.4 and if necessary by the test of X2.2		N
X2.1.2	<p>NON-METALLIC MATERIAL</p> <p>Relevant parts of non-metallic material are subjected to the glow-wire test of AS/NZS 3350.1, the test being made at a temperature of 550°C.</p> <p>The 550°C glow-wire test need not be carried out on parts which are made of material classified as FH 3-40 mm/min or better according to IEC 60707. The sample of material submitted to the test of IEC 60707 shall be thicker than the relevant part.</p> <p>Insulating material of winding bobbins and formers are subject to the glow-wire test of AS/NZS 3350.1, the test being made a temperature of 650°C.</p> <p>Base material of printed circuit boards with any coating or encapsulation to the needle-flame test of AS/NZS 3350.1, however, flames shall have extinguished with 15s of removal of the test flame. The flame shall be applied to an edge of the board having the lowest heat sink effect, with the board orientated in its normal position of use and at a point, if possible, not less than 10mm from a corner.</p> <p>The needle-flame test is not carried out on base material which is made of material classified as FV-0 according to IEC 60707. The sample of material submitted to the test of IEC 60707 shall be no thicker than that of the relevant printed circuit board.</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. The test is not carried out on printed circuit boards contained in a metal enclosure that prevents flames or burning droplets from escaping. 2. If the printed circuit board is tested with components mounted and a component ignites during the test, this would not constitute a failure of the printed circuit board material unless it is ignited by the component. 		N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
X2.1.3	<p>ATTENDED EQUIPMENT</p> <p>For equipment which is operated while attended, parts of insulating material supporting, in contact with or in close proximity to current carrying connections, other than those in SELV circuits are subject to the glow-wire test AS/NZS 3350.1, the test being made at a temperature of 650°C. However parts of insulating material supporting, in contact with or in close proximity to screw connections which carry a current exceeding 0.5A during normal operation and which are likely to be made or remade during installation, user maintenance or when replacing a supply cord assembled with the appliance by Type X attachment, are subject to the glow-wire test AS/NZS 3350.1, the test being made at a temperature of 750°C.</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. The test is not carried out on parts supporting welded connections. 2. 'In close proximity' is considered to be a distance not exceeding 3mm. 		N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
X2.1.4	<p>UNATTENDED EQUIPMENT</p> <p>For equipment which is operated while unattended, parts of insulating material supporting, in contact with or in close proximity to current carrying connections, other than those in SELV circuits are subject to the glow-wire test AS/NZS 3350.1, the test being made at a temperature of 750°C. However parts of insulating material supporting, in contact with or in close proximity to screw connections which carry a current exceeding 0.5A during normal operation and which are likely to be made or remade during installation, user maintenance or when replacing a supply cord assembled with the appliance by Type X attachment, are subject to the glow-wire test AS/NZS 3350.1, the test being made at a temperature of 850°C.</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. The test is not carried out on parts supporting welded connections. 2. 'In close proximity' is considered to be a distance not exceeding 3mm. <p>During the application of glow-wire, the height and duration of flames are measured.</p> <p>In addition, for parts which withstand the glow-wire test but which flame during the application of the glow-wire, the surrounding parts are subject to the needle-flame test of AS/NZS 3350.1 for the measured duration of the flame after or 30s, whichever is the least if -</p> <ol style="list-style-type: none"> a) They are positioned within a distance equal to the height of the flame; and b) they are likely to be impinged upon by the flame <p>However, surrounding parts shielded by a separate barrier which meets the needle-flame test are not tested.</p> <p>The needle-flame test is not carried out on parts which are made of material classified as FV-0 or FV-1 according to IEC 60707. The sample of material submitted to the test of IEC 60707 shall be no thicker than the relevant part.</p> <p>Note: Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10mm and a height equal to the height of flame, positioned above the point of the material supporting, in contact with or in close proximity to connections.</p>		N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
X2.2	<p>ADDITIONAL TEST REQUIREMENTS</p> <p>If parts, other than enclosures, do not withstand the test of clauses X2.1.3 or X2.1.4, by failure to extinguish within 30s after removal of the glow wire tip, the needle-flame test of AS/NZS 3350.1 is made on all parts of non-metallic material which are within a distance of 50mm or which are likely to be impinged upon by flame during the test of clauses X2.1.3 or X2.1.4. Parts shielded by a separate barrier which meets the flame-needle test are not tested.</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. If the enclosure does not withstand the glow-wire test the appliance is considered to have failed to meet the requirement of Appendix 2 without the need for consequential testing. 2. If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the appliance, the appliance is considered to have failed to meet the requirement of Appendix 2 without the need for consequential testing. 3. Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with or in close proximity to connections. <p>The needle-flame test need not be carried out on parts which are made of classified as FV-0 or FV-1 according to IEC 60707. The sample of material submitted to the test of IEC 60707 shall be no thicker than the relevant part.</p>		N
Appendix 3	<p>Add Appendix:</p> <p>D.C. COMPONENTS FROM A.C. EQUIPMENT</p> <p>Equipment shall be designed so that in normal use the value of any direct current in the equipment neutral will not contribute unduly to the failure of the installation earth electrode by corrosion.</p> <p>Any device such as isolating transformer intended to prevent direct current in the supply shall be an integral part of the equipment.</p>	No D.C. current under normal operation condition	P

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
	<p>Compliance is checked by inspection and by operating the equipment</p> <p>(a) at the rated voltage under the conditions specified in Clause 5.1;</p> <p>(b) on a supply free from any d.c. component; and</p> <p>(c) in the maximum d.c. producing mode, if any, but not exceeding normal load;</p> <p>and measuring the d.c. component in the supply neutral caused by the equipment as described below.</p> <p>If it is evident from the design of the equipment that there will be no d.c. component, e.g. equipment provided with a full-wave mains power supply or a mains isolating transformer, this test is not conducted.</p> <p>The permissible direct current in the equipment neutral shall not exceed</p> <p>(i) for equipment considered as operating continuously 5 mA; or</p> <p>(ii) for other than continuously operated equipment where t is the assessed daily average operating time, in hours$(5 \times 24)/t$ mA</p> <p>For equipment which is not continuously operated but includes a component or a device which is continuously energized, e.g. stand-by control or remote switching device, the summation of the product of the direct current from the control device over 24h and the direct current from the equipment for its assessed daily average operating time in hours shall not exceed 120mAh per day.</p> <p>The maximum value of direct current permitted in the neutral is 1.44A which could be applicable to equipment with an assessed average daily operating time of 5 min. or less.</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. When determining the assessed daily average operating time the approvals authority may accept evidence supplied by the manufacturer. 2. The d.c. peak value due to transient starting effects is ignored. <p>The measuring system used to measure any direct current produced shall have a sufficiently high normal (series) mode rejection ratio, by the use of a low pass filter if necessary, to ensure that an overall uncertainty of less than 10% can be achieved.</p>		

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	Canadian National Differences according to CB Bulletin No. 99A, July 2001 (IEC Publication 60950 2nd edition, 1991 + Amd.1, 1992 + Amd.2, 1993 + Amd.3, 1995 + Amd.4, 1996)		P
EXPLANATION FOR ABBREVIATIONS			
P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.			
Special National Conditions			
1.1.1	All equipment installations are required to be in accordance with the Canadian Electrical Code (CEC). Part 1, CAN/CSA C22.1.	Complies.	P
1.7.1	Equipment for use on supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extended into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than specified "Normal Operating Condition," unless it is part of a range that extends into the "Normal Operating Conditions."	Single phase.	N
2.5.9	Terminals for permanent wiring are required to be suitable for U.S./Canadian wire gauge sizes and be rated 125 percent of the equipment rating.		N
2.5.11	The capacity of the connection between the earthing terminal and parts required to be earthed is required to comply with CAN/CSA C22.2 No. 0.4.	Considered, see IEC 60950 report.	P
2.6.2	Motor control devices are required for cord-connected equipment with a motor if the motor (a) has a nominal voltage rating greater than 120V, (b) in rated more than 12 A, or (c) is rated more than 1/3 hp (locked rotor current over 43 A).	Not motor control device.	N
2.6.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.	No vertically-mounted disconnect switch or circuit breaker.	N
2.6.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power off circuit.		N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
2.7.1	<p>Suitable NEC/CEC branch circuit protection is required for all standard supply outlets and medium-base or smaller lampholders if the supply branch circuit protection is not suitable.</p> <p>Power distribution transformers distributing power at 100 volts or more, and rated 10KVA or more, required transformer overcurrent protection.</p> <p>Panelboards provided as part of information technology equipment are required to have suitable overcurrent protection.</p>	No power outlet.	N
2.7.6	Fuses provided in the earthed circuit conductor (neutral) are only permitted for equipment rated 125V, 15A.	No fuse in neutral or earth conductors.	N
2.11	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.	Class I equipment	N
3.1.12	For lengths exceeding 2 m, external interconnecting flexible cord and cable assemblies are required to be suitable cable type (e.g. DP, CL2) described in the NEC.		N
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC and CEC.		N
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	No power cord provided.	N
3.2.2	Permanent connection of equipment to the mains by a power supply cord is not permitted.	No power cord provided.	N
3.2.4	<p>Power supply cords are required to be not longer than 4.5 m in length.</p> <p>Flexible power supply cords are required to be compatible with article 400 of the NEC and Table 12 of the CEC.</p>	No power cord provided.	N
3.2.8	Permanently connected equipment is required to have a suitable wiring compartment and wiring bending space.	No power cord provided.	N
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CAN/CSA No. 0.	No wire binding screws used	N
3.3.3	Wiring binding screws are not permitted to attach conductors larger than 10 AWG (5.3mm²).	No wire binding screws used	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
4.3.12	Equipment with lasers is required to meet Code of Federal Regulations 21 CFR 1040 and Canadian Radiation Emitting Devices Act, REDR C 1370.	CD-ROM is approved component.	P
4.4.1	For computer room application, automated information storage systems with combustible media greater than 27 cubic feet are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N
4.4.4	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² or a single dimension greater than 1.8 m, are required to have flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N
4.4.8	The maximum quantity of flammable liquid stored in equipment is required to meet NFPA 30.	No liquid	N
Annex H	Equipment that produces ionizing radiation is required to comply with Code of Federal Regulations, 21 CFR 1020 and/or Canadian Radiation Emitting Devices Act, REDR C1370, as applicable.		N
Other Differences			
1.5.1	<p>Components of equipment must be suitable for the application, and must comply with the requirements of the equipment standard and the Canadian or U.S. components standards, as far as they may apply.</p> <p>The acceptance will be based on the following:</p> <p>A) A component certified by a Canadian or U.S. NCB to a Canadian or U.S. component standard will be checked for correct application and use in accordance with its specified rating. Where necessary, it will also be subjected to the applicable tests of the equipment standard.</p> <p>B) A component which has a CB Test Certificate for compliance with a relevant IEC component standard will be checked for correct application and use in accordance with its specified ratings. Where necessary, it will also be subjected to the applicable tests of the equipment standard, and to the applicable tests of the Canadian and U.S. component standard, under the conditions occurring in the equipment.</p>	Components UL or CSA approved, see component list 1.5.1.	P

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
	<p>C) A component which has no approval as in A) or B) above or which is used not in accordance its specified ratings, will be subjected to the applicable tests of the equipment standard, and to the applicable tests of the Canadian or U.S. component standard, under the conditions occurring in the equipment.</p> <p>D) Some components may require annual re-testing which may be carried out by the manufacturer, CSA or another laboratory.</p>		
3.4	Equipment connected to a centralized d.c. power system is required to meet special earthing wiring and marking requirements.		N
4.1.6	Wall and ceiling mounted equipment is required to comply with special loading tests.		N
4.1.7	Equipment with handles is required to comply with special loading tests.		N
4.2.9	Enclosures around C.R.T 's having a diagonal dimension of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.	No CRT.	N
6.2.1.1	Under normal operating conditions, the maximum acceptable TNN-2 and TNV-3 circuit levels for other than ringing signals are: $(U_{ac}/42.4 + U_{dc}/60) < = 1$.		N
6.2.2.2	Access restrictions to TNV-2 and TNV-3 circuits in battery compartment also apply to TNV-1 circuits.		N
6.3.4.3	Equipment intended to receive telecommunication ringing signals is required to comply with special leakage current measurement tests.		N
6.4.1	Enamel coating on winding wire not considered electrical separation unless subject to special investigation.		N
6.4.3	Equipment connected to a telecommunications network and supplied with an earphone intended to be held against the ear is required to comply with special acoustic pressure tests.		P
6.5	Where a fuse is used to provide current limiting, it shall not be operator-accessible unless it is not interchangeable.		N
6.6	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.		N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	US National Differences according to CB Bulletin No. 99A, July 2001 for IEC 60950 (1991) 2nd Edition, Amendment No.1 (1992), Amendment No. 2 (1993), Amendment No. 3 (1995) and Amendment No. 4 (1996)		P
EXPLANATION FOR ABBREVIATIONS			
P = Pass, F = Fail, N = Not applicable. Placed in the column to the right.			
The following national differences are based on national regulatory requirements.			
1.1.1	All equipment installations are required to be in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, and unless marked or otherwise identified, the Standard for the Protection Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Complies.	P
1.7.1	Equipment for use on supply systems with a neutral and more than one phase conductor (e.g. 120/240V, 3-wire) require a special marking format for electrical rating. A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions". Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions", unless it is part of a range that extends into the "Normal Operating Conditions".	Single phase.	N
2.5.9	Terminals for permanent wiring are required to be suitable for U.S./Canadian wire gauge sizes and be rated 125 percent of the equipment rating.		N
2.5.11	The capacity of the connection between the earthing terminal and parts required to be earthed is required to comply with CAN/CSA C22.2 No. 0.4.	Considered, see IEC 60950 report.	P
2.6.2	Motor control devices are required for cord-connected equipment with a motor if the motor (a) has a nominal voltage rating greater than 120V, (b) is rated more than 12A, or (c) is rated more than 1/3 hp (locked rotor current over 43A).	Not motor control device.	N
2.6.8	Vertically mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the "up" position.	No vertically-mounted disconnect switch or circuit breaker.	N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
2.6.11	For computer room applications, equipment with battery systems capable of supplying 750VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.		N
2.7.1	Suitable NEC/CEC branch circuit protection is required for all standard supply outlets and medium-base or smaller lampholders if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10kVA or more, require transformer overcurrent protection. Panelboards provided as part of information technology equipment are required to have suitable overcurrent protection.	No power outlet.	N
2.7.6	Fuses provided in the earthed circuit conductor (neutral) are only permitted for equipment rated 125V, 15A.	No fuse in neutral or earth conductors.	N
2.11	Where a fuse is used to provide current limiting, it shall not be operator-accessible unless it is not interchangeable.		
3.1.12	For lengths exceeding 3.05m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g. DP, CL2) described in the NEC. For length 3.05m or less, external interconnecting flexible cord and cable assemblies which are not types specified in the NEC are required to have special construction features and identical markings.		N
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC and CEC.		N
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		N
3.2.2	Permanent connection of equipment to the mains by a power supply cord is not permitted.		N
3.2.4	Power supply cords are required to be no longer than 4.5m in length. Flexible power supply cords are required to be compatible with Article 400 of the NEC and Table 12 of the CEC.		N

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
3.2.8	Permanently connected equipment is required to have a suitable wiring compartment and wiring bending space.		N
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0.		N
3.3.3	Wire binding screws are not permitted to attach supply conductors larger than 10 AWG (5.3mm ²).		N
4.3.12	Equipment with lasers is required to meet Code of Federal Regulations 21CFR 1040 and Canadian Radiation Emitting Devices Act, REDR C1370.	CD-ROM is approved component.	P
4.4.1	For computer room applications, automated information storage systems with combustible media greater than 27 cubic feet are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N
4.4.4	For computer room applications, enclosures with combustible material measuring greater than 0.93mm ² or having a single dimension greater than 1.8m are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N
4.4.8	The maximum quantity of flammable liquid stored in equipment is required to meet NFPA 30.	No liquid.	N
The following national differences are based on requirements other than national regulatory requirements.			
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These components include: attachment plugs, cathode ray tubes, circuit breakers, communication circuit accessories, cord sets and power supply cords, enclosures (outdoor), flexible cords and cables, fuses, fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, lampholders, limit controls, printed wiring, protectors for communication circuits, receptacles, solid state controls, supplementary protectors, surge suppressors, switches, thermal cutoffs, thermostats, tubing, wire connectors, and wire and cables.	See component list clause 1.5.1 of IEC 60950 report.	P

National Deviation			
Clause	Requirement – Test	Result – Remark	Verdict
3.4	Equipment connected to a centralized d.c. power system is required to meet special earthing, wiring and marking requirements.		N
4.1.6	Wall and ceiling mounted equipment is required to comply with special loading tests.		N
4.1.7	Equipment with handles is required to comply with special loading tests.		N
4.2.9	Enclosures around CRT's with a face area of 160mm or more are required to reduce the risk of injury due to the implosion of the CRT.	No CRT.	N
6.2.1.1	The maximum acceptable TNV circuit levels for other than ringing signals are: normal condition- $(U_{ac}/42.4 + U_{dc}/42.4) \leq 1$ for $U_{dc} \leq 21.2$ $(U_{ac}/32.8 + U_{dc}/60) \leq 1$ for $U_{dc} > 21.2$ abnormal conditions- $(U_{ac}/70.7 + U_{dc}/120) \leq 1$		P
6.2.2.2	Access restrictions to TNV-2 and TNV-3 circuits in battery compartments also apply to TNV-1 circuits.		P
6.3.4.3	Equipment intended to receive telecommunication ringing signals is required to comply with special leakage current measurement test.		N
6.4.1	Enamel coating on winding wire are not considered electrical separation unless subjected to special investigation.		N
6.4.3	Equipment connected to a telecommunication network and supplied with an earphone intended to be held against the ear is required to comply with special acoustic pressure tests.		N
6.5	Equipment intended to provide power over the telecommunication wiring system is required to limit output current to values which will not damage the telecommunication wiring system.		N
6.6	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage.	Should be evaluated during national approval	N
M.2	Continuous ringing signals up to 16mA only are permitted if subjected to special installation and performance restriction.		N